DEAF-MUTISM.

Deaf-Mutism. By Holger Mygind, M.D., Copenhagen. (London: F. J. Rebman, 1894.)

A FEW months ago, in noticing "The History of American Schools for the Deaf," we spoke of the treatment of deaf-mutes, and regretted the fact that we hear so little of that work in England. Before us we have another book, again of foreign origin, in which is described, exhaustively and systematically, the pathology of deaf-mutism. The materials used in its compilation are almost entirely obtained from Denmark, and, although published in England, and revised by an English specialist of note, the book may be said to have a somewhat foreign flavour. With the exception of special chapters upon the subject in Wilde's, Field's, and Toynbee's works on diseases of the ear, little is to be found in English writings, and there are no books dealing solely with deaf-mutism written by Englishmen. This may, perhaps, be accounted for by the fact that in the table of recent statistics of the distribution of deaf-mutes in various countries, England and Wales stand twentieth in a list of twenty-three, showing only fifty-one of these unfortunates per thousand inhabitants. Ireland and Scotland stand higher in the table, with seventy-seven and fifty-seven per thousand respectively. Still, even with the happily low rate of deaf-mutism in this country, it is a matter for regret that no Englishman has produced a work upon the subject.

Dr. Holger Mygind performs his task very well. To begin with, he arranges it in a systematic manner, and treats each part as exhaustively as lies in his power. Devoting his introduction to definition, literature, classification, and distribution, he gives evidence of considerable patient research. In discarding the classification of deaf-mutes according to the degree of its symptoms for that according to its etiology, he does wisely, the former being as unscientific as it is misleading. It is a pity that "Creed" should have been included under the heading "Distribution," since Dr. Mygind shows that the apparent greater frequency among certain religions is, as one would expect, really due to the relative numbers of persons professing such religions; while the well-known fact that the Jews produce a larger number of blind, idiotic, and deaf-mute individuals than the races among which they live, is due, doubtless, to the consanguineous marriages practised by the Hebrews.

Perhaps the most interesting part of the work (the whole of which cannot be otherwise to the student of pathology) is the chapter which deals with etiology and pathogenesis, and in which such conditions as climate, water, hygiene, heredity, and the like are discussed. With regard to heredity, Dr. Mygind brings forward a series of facts (the collection of which must have caused considerable labour) referring to the appearance of deaf-mutism and other pathological conditions among the relatives of deaf-mutes, and from these facts endeavours to formulate some definite laws concerning the heredity of deaf-mutism. These laws, it is stated, are difficult of interpretation, and seem in many respects to differ from those which relate to other pathological conditions and diseases, a fact to be accounted for by the number and variety of the causes of deaf-mutism, and consequently of the causes of each individual case. The matter is further complicated by the presence of factors, equally important, which tend to neutralise the transmission of morbid tendencies. It appears that deaf-mutism is, in many instances, the combined result of the transmission of various influences which fall into two groups—those which originate in ear diseases, and those which originate in nervous diseases in the family.

The material from which the chapter on morbid anatomy is based is formed from the reports of some 139 autopsies, the principal of which are collected in an appendix. The morbid changes in the ear are classified under the heads of external ear, middle ear, and labyrinth. From the evidence here collected, it seems that the pathological conditions differ rather in extent and intensity than in quality from those generally found in ear diseases, and, from appearances alone, it is in many cases impossible to decide whether the changes are of fœtal or post-fœtal origin. Dr. Mygind sums up the question of pathology in these words: "Deaf-mutism is, therefore, from an anatomical point of view, in most cases to be considered as a result of an abnormality of the labyrinth."

We congratulate Dr. Mygind upon the successful completion of a task which must have been at once laborious and interesting. To the pathologist, whether general or special, the work cannot fail to be a source of interest, and it is to be hoped that the work done by the author in thus bringing together so much that is known upon the subject will be productive of good.

P. MACLEOD YEARSLEY.

OUR BOOK SHELF.

A Text-book of Physiological Chemistry. By O. Hammarsten, Professor of Medical and Physiological Chemistry in the University of Upsala. Authorised translation from the second Swedish and from the Author's enlarged and revised German edition, by J. A. Mandel, Assistant to the Chair of Chemistry, Bellevue Hospital Medical College, New York. (New York: John Wiley and Sons, 1893.)

PROF. HAMMARSTEN is so highly esteemed for his work and views on the more specially chemical side of physiology, that a text-book from his pen was looked for with keen anticipation. Unfortunately a knowledge of the Swedish language is not as yet an accomplishment possessed by more than a favoured few, however essential it may become in the future, so that when his text-book first appeared its contents were largely inaccessible to the majority of would-be readers. As a consequence of this, Prof. Hammarsten was asked by numerous colleagues to provide a German version of the first Swedish edition. Unable to comply with this earlier request, he yielded to a strongly renewed similar proposal after the appearance of the second Swedish edition, and in 1890 he published the work in German, translating it himself. In its German dress the text-book is so well known and approved that detailed criticism or renewed commendation is now scarcely necessary. Written "to supply students and physicians with a condensed and as far as possible objective representation of the principal results of physiologico-chemical research, and also with the principal features of physiologico-chemical methods of work," the book was not regarded by its author as "complete or detailed" from the point of view of the specialist. Clear, yet

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concise, and dealing not only with the well-known facts and methods of physiological chemistry, but also with the more important points of pathologico-chemical interest, this work is peculiarly suited for the student while going through a course of laboratory instruction. From this point of view the present English version should be widely welcomed. The translation has been made without additions or changes from the author's German edition and the original Swedish. Judged by a comparison with the German, the translator must be congratulated on the way he has done his work. While adhering very closely and literally to the original, the translation reads well and is free from the awkward and often clumsy expressions which frequently result from attempts to render German phrases too closely into English equivalents.

After a short introduction (chapter i.), treating in a general way of some of the more important chemical processes and agents which have to be dealt with in the living body, the next twelve chapters give an account of proteids, the animal cell, blood, chyle, lymph transudations and exudations, the liver, digestion, connective tissues, muscle, brain and nerves, organs of generation, milk, the skin and its secretions. Chapter xiv., the longest and one of the most important in the book, is on urine. Here, from the practical importance of the subject, the treatment is more elaborate than in the preceding chapters, more especially as regards details of analytical methods and urinary analysis. Here also, as in the other chapters, the analytico-chemical parts are distinguished from the rest of the text by special type, an excellent plan which facilitates the work of those who may wish merely to learn what is most definitely known of the substances and processes of the animal body. The last chapter contains a concise but clear account of the more important facts of the exchange of material (Stoffwechsel) or metabolism, and of its relationship to various foods and to the conditions of starvation, exercise, rest, &c. Some useful tables of the composition of various foods are placed at the end of this chapter, and, after the index, which is full and carefully made, a plate is given of the more common and important absorption-spectra.

Electricity, Electrometer, Magnetism and Electrolysis. By G. Chrystal, M.A., LL.D. and W. N. Shaw, M.A., F.R.S. (London: A. and C. Black, 1894.)

THE present cheap reprint of these articles from the Encyclopædia Britannica should meet with a hearty welcome from all students of electricity and magnetism, and more especially from those who are desirous of extending their acquaintance with the science beyond the limits of ordinary elementary text-books. Such students generally find a difficulty in selecting a work from which to read the higher parts of the subject. Maxwell's treatise is too mathematical for the majority of students; one work is, perhaps, too technical in character, while another deals too exclusively with practical measurements. The division of the subject after the first stages into mathematical and technical branches is certainly a natural one, and corresponds in some measure with the requirements of students. It does not, however, lighten the labours of those who wish to obtain a grasp of general theory and experiment without being cumbered with the details of machines on the one hand, or degenerating into pure mathematics on the other. For such students the articles of Prof. Chrystal and Mr. Shaw help to fill a gap left behind by the existing text-books. The historical, experimental, and mathematical portions are nicely balanced, and together form an epitome of the whole subject, which is made more valuable by the addition of references to original papers and standard works. The student will find it both a guide and a key to his reading, and by looking up its references he may pursue the subject to any desired degree of detail.

In the interval which has elapsed since the first publication of the articles, knowledge has been accumulated, and it is a matter for regret that the circumstances of the present issue do not permit of the articles being brought up to date. The absence of all reference to the work of Hertz in electricity, and of Ewing in magnetism, is attributable to this cause; while Mr. Shaw's Reports to the British Association show that much work has been done in connection with electrolysis since his article was written. Similarly in Electro-metallurgy—an article which, by the way, is not specified on the title-page—considerable progress has to be reported.

Apart from these additions, there is one point in Prof. Chrystal's article which might be improved, namely, the definition of the statical unit of electricity (p. 21). It ought to be stated that the force exerted on the conductors carrying the charges is measured *in vacuo*. Indeed, it would be better to introduce the idea of specific inductive capacity at this point, and so avoid a certain amount of confusion between electric induction and electric force in the following pages. The same remarks apply to the unit of magnetism (art. "Magnetism," p. 227). But although it is easy to criticise past writings in the light of present knowledge, we venture to think that the articles before us will stand a far more severe test than many works written at a later date.

JAMES L. HOWARD.

LETTERS TO THE EDITOR.

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On the Velocity of the Constantinople Earthquake-Pulsations of July 10, 1894.

ACCORDING to the accounts so far published, it would appear that the epicentrum of this earthquake was situated under the Sea of Marmora, at a short distance from San Stefano; but, for the purpose of this paper, no very sensible error will be introduced by assuming it to coincide with Constantinople itself.

To ascertain the time at the origin. I applied to M. Coumbary, director of the Meteorological Observatory at Constantinople, and to Mr. W. H. Wrench, H.M. Consul-General in that city. M. Coumbary informs me that the first great shock was felt at 12h. 24m. p.m. Constantinople mean time (or 10h. 28m. a.m. Greenwich mean time); its direction was from south-west to north-east, and its duration eight to ten seconds. A second shock, lasting three seconds, followed immediately; and a third, of one second duration, at 12h. 31m. A number of slight shocks succeeded these, but I have received no certain record of them from distant stations. Mr. Wrench kindly made inquiries of several watchmakers in the city. Two regulating clocks were stopped by the principal shock, one at 12h. $20\frac{1}{2}$m., the other at 12h. $21\frac{3}{4}$m.; both, according to their owners, having previously indicated correct local time.

The earthquake was felt at Bucharest, and it was also registered by a horizontal pendulum at Nicolaiew, and by magnetic instruments at Pola, Potsdam, Wilhelmshaven, Utrecht, Parc Saint-Maur, and Kew. In the following summary the times are reduced to Greenwich mean time:—

Bucharest (Dr. S. C. Hepites).—A very slight shock was felt at 10h. 30m. 11s. a.m., of intensity 3 (Rossi Forel scale), direction from east to west. Two pendulums, placed on north-south walls at the Meteorological Institute, were stopped.

Nicolaiew (Prof. S. Kortazzi).—The curve traced by the horizontal pendulum was suddenly broken at 10h. 30m. 36s. a.m.; the pendulum itself was thrown out of position, and was found afterwards leaning against one of the side-supports.

Pola (Dr. S. Müller).—The declination curve shows two disturbances, at 10h. 36m. 37s. and 10h. 41m. 37s. a.m. The movements indicated on the bifilar and Lloyd's balance curves are very slight.

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